

Application No.10/693,730

Reply to Office Action

REMARKS

Reconsideration of the referenced application is respectfully requested in view of the foregoing amendments and the following remarks.

Status of the Application

Claims 1-16 are currently pending. The amendments to the claims set forth in this response sharpen the claim language, and address grammatical matters as well as informalities said to be associated with claims 15 and 16. As the amendments are well supported throughout the specification, no new matter has been introduced by way of these amendments.

Summary of the Office Action

The Office Action begins by objecting to a lack of antecedent basis for the term "the background" in claims 15 and 16.

From a substantive perspective, claims 1-3 are rejected as anticipated by U.S. Patent 6,820,552 to Verschueren ("Verschueren").

Claims 4, 8, 9, 11, 13, 15 and 16 are rejected as obvious over Verschueren in view of U.S. Patent 6,632,472 to Louwet ("Louwet").

Claims 5-7 are rejected as obvious over Verschueren in view of U.S. Published Patent Application 2002/0083858 to MacDiarmid ("MacDiarmid").

Claims 10 and 12 are rejected as obvious over Verschueren in view Louwet as applied above, and further in view of U.S. Patent 6,827,435 to Domoto ("Domoto").

Finally, claim 14 is rejected as obvious over Verschueren in view of U.S. Patent 5,163,999 to Uchida ("Uchida").

Discussion of the Objection and Rejections

Objection to Claims 15 and 16

Applicants have added language to make explicit that which would be understood by those skilled in the art. As is well known, in printing, certain areas of the printing plate are provided with ink, while the other areas are not provided with ink. The area in which ink is not provided is commonly referred to as the background, short for image background. In offset printing, the area of the printing plate not provided with ink is coated with a fountain medium, which is ultimately transferred to the non-image (i.e., background) area of a recipient material.

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As the objection to the term "background" has been addressed applicants request that the objection be withdrawn.

Anticipation of Claims 1-3

Applicants traverse the anticipation rejection entered against claims 1-3 because Verschueren fails to disclose each and every limitation set forth in claims 1-3.

Verschueren discloses a process for printing using a reusable substrate. Generally, the highly preferred aspect of the Verschueren process relied upon in the Office Action describes the use of an imaging layer which uses heat-induced coalescence of hydrophobic thermoplastic polymer particles to provide a hydrophobic printing area. The thermal coalescence can be induced by direct exposure to heat, e.g., by means of a thermal head, or by the light absorption of one or more compounds that are capable of converting light into heat. "Particularly useful light-to-heat converting compounds are for example dyes, pigments, carbon black . . . and conductive polymer dispersions such as polypyrrole, polyaniline or polythiophene-based conductive polymer dispersions." See Verschueren, col. 5, lines 5-24.

Verschueren thus discloses the incorporation of the aforesaid conductive polymer dispersions within the imaging layer itself, i.e., the conductive polymer dispersions are not applied onto the imaging layer either prior to or after formation of the printing area.

In marked contrast, the present invention, in providing a process for the offset printing of a receiving medium with a functional pattern, comprises the steps of applying a printing ink to a printing plate and wetting said printing plate with an aqueous fountain medium comprising a solution or a dispersion which comprises at least one moiety having at least coloring, pH-indicating, whitening, fluorescent, phosphorescent, X-ray phosphor or conductive properties. Verschueren does not disclose a process wherein a printing ink is applied onto a printing plate and wetting said printing plate with an aqueous fountain medium comprising a solution or a dispersion as claimed.

For at least these reasons, withdrawal of the rejection based on Verschueren is respectfully requested.

Obviousness Rejection of Claims 4, 8, 9-13 and 15

Applicants respectfully traverse each of the obviousness rejections for the following reason.

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As discussed above, Verschueren is fatally deficient in its teachings, and does not render any of the claims invalid as obvious, either alone or in combination.

Specifically, Verschueren is limited to teaching the incorporation of the aforesaid conductive polymer dispersions within the imaging layer. Verschueren fails to teach the use of a solution or dispersion as claimed in any other process component, e.g., in the fountain medium or in the printing ink. Verschueren, therefore, fails to motivate one skilled in the art to apply a printing ink to a printing plate and wet said printing plate with an aqueous fountain medium comprising the claimed solution or a dispersion.

Louwet does not provide the teaching absent in Verschueren. The Office Action itself uses Louwet as a secondary reference, purportedly teaching the use of certain conductive polymers, aprotic organic compounds, surfactants, and the like, in its process. One skilled in the art, confronted with the purported combination, would be motivated to use the Louwet components in the manner taught by Verschueren—by incorporating them into the imaging layer, as Verschueren teaches the use of such components solely as components of the imaging layer. There can be no reasonable dispute that the combination of Verschueren and Louwet fails to render the claimed invention obvious.

In specific regard to claims 10 and 12, the Office Action advises that Dornoto teaches a printing device having a step subsequent to printing in which a receiving medium within 10 minutes of printing is heated to a temperature of 100°C to 250°C and to a temperature of ≤ 150°C. As this teaching fails to overcome the deficiency of Verschueren (and Louwet) as described above, claims 10 and 12 are not rendered obvious by the asserted combination.

Obviousness Rejection of Claims 5-7

The Office Action asserts that, in view of the combination of Verschueren and MacDiarmid, it would have been obvious to modify Verschueren to have the conductive polymer as taught by MacDiarmid in order to utilize a polymer with increased conductability.

As discussed above, the teaching attributed to MacDiarmid by the Office Action fails to overcome the deficiencies in Verschueren. Again, one skilled in the art having both Verschueren and MacDiarmid would be motivated to use the MacDiarmid components in the manner taught by Verschueren—by incorporating them into the imaging layer.

Obviousness Rejection of Claim 14

The Office Action asserts that Uchida teaches a fountain medium having a viscosity of 25°C after stirring to constant viscosity of 30 mPa.s as measured according to DIN 53211.

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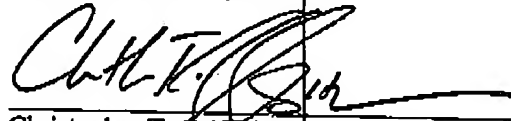
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As discussed above, the teaching attributed to Uchida by the Office Action fails to overcome the deficiencies in Verschueren. Again, one skilled in the art having both Verschueren and Uchida would not provide the invention as set forth in claim 14.

Conclusion

Applicants submit that the application is now in proper condition for allowance, and respectfully request that it be passed to issue. If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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